

*Dalea purpurea*

Purple Prairie Clover

by Kathy Lloyd, Montana Native Plant Society

Purple prairie clover, or *Dalea purpurea* as it is known to today's botanists, is a beautiful plant of the plains and prairies. It is a member of the bean family (Fabaceae) and must have made an impression on Meriwether Lewis because he collected specimens of the plant at least three times while trekking across the North American continent. We know that the first specimen was collected on July 20, 1804 above present-day Nebraska City, Nebraska. The Corps of Discovery spent the winter of 1804-05 at Fort Mandan near the Knife River in what is now North Dakota. During the long, cold winter Lewis and Clark prepared specimens they had collected on their way up the Missouri River, and on April 7, 1805, the Captains sent their specimens on a keelboat back to St. Louis for President Jefferson. One of the plants listed in the documentation Lewis sent with the specimens is purple prairie clover. This specimen has been lost, but we have the notes Lewis made about the plant on his list. He provides a good description of the species and says, "it is a stranger to me." Lewis was very familiar with plant species from the eastern United States, and knew he had not encountered this plant before.

Fortunately for us, the two other specimens of purple prairie clover survived the arduous journey and are now part of the Lewis & Clark Herbarium at the Academy of Natural Sciences in Philadelphia. Both collections are on the same specimen sheet. One has an original Lewis label that says, "found September 2ed the Indians use it as an application to fresh wounds. they bruise the leaves adding a little water and apply it.-" Scholars believe this specimen was collected in 1804, although why it wasn't included in the shipment sent back to St. Louis is a mystery. The second specimen on the sheet was collected in Montana on July 22, 1806. The label applied by botanist Frederick Pursh says, "On the Missouri Jul. 22d 1806." This specimen is in flower and appears to be well preserved.

On July 22, 1806, Lewis and his small party were still trying to determine if the Marias River drainage reached as far north as 50° north latitude. After following Cut Bank Creek all day, they reached what they called "Camp Disappointment" in Glacier County, having decided that the drainage did not originate farther north. Meanwhile, Clark and his party were camped on the north side of the Yellowstone River in present-day Stillwater County.

As Lewis and Clark discovered, purple prairie clover is distributed throughout the Great Plains. It can be found from southeastern Alberta, southern Saskatchewan, and Manitoba south to Texas and Alabama and as far west as eastern Montana, Wyoming and Colorado. The species is considered rare in Ontario, Manitoba, and Tennessee and has been extirpated in Ohio and Michigan. Purple prairie clover grows on a variety of sites including dry plains, prairies, hillsides, open woodlands, shaded ravines, and roadsides. It develops best where the mean annual precipitation is at least 15 inches, and is moderately shade tolerant but can also grow in recently disturbed, open areas.

Purple prairie clover is a perennial forb (wildflower) that can grow from eight to 35 inches tall. The stem usually has one to three branches, but sometimes many more arise from a single stem. The leaves are alternate on the stem and compound, having three to nine narrow leaflets. A mature purple prairie clover plant develops a strong taproot that can be as much as six and a half feet deep. The flowers can be rose, pinkish or a bright purple and have bright orange stamens that protrude beyond the small petals. The flowers are massed into a cone-like spike on the ends of the stems and begin flowering from the bottom and work up towards the top of the spike.

Purple prairie clover, being highly nutritious, provides excellent forage for livestock and wildlife. The new growth is especially high in protein content, and is favored by white-tailed deer and wild turkeys. However, purple prairie clover decreases in response to grazing and a decline in the species may indicate overgrazing.

Purple prairie clover was considered an important legume on the Great Plains and provided both food and medicine. As Lewis noted, bruised leaves were steeped in water and applied to fresh wounds. American Indians also used the plant as a heart medicine, to ease diarrhea, for pneumonia and measles. Some tribes ate fresh and boiled purple prairie clover leaves, made tea from the leaves and chewed the roots for candy. The Pawnee used the tough stems to make brooms.

Today, purple prairie clover is used with other wildflowers and grasses to stabilize disturbed sites such as mine spoils, road cuts, and overgrazed rangelands. It is valuable for erosion control due to its deep, fibrous, branching root system, and is often seeded with grass mixtures because of its nitrogen-fixing ability.

Purple prairie clover is generally considered an increaser following fire and the plant may be profuse following a prairie fire because fire stimulates the germination of seeds that are stored in the soil. Purple prairie clover may have been one of the species to benefit from the fires set on the prairies by native tribes.

Purple prairie clover begins to grow early in the spring at the same time as prairie grasses, but soon exceeds the grasses in height. We can imagine Lewis and Clark walking through miles of native prairie, admiring purple prairie clover and the numerous other species of native plants new to them.

If you visit native prairie today, remember that the conversion of the land to other uses and the encroachment of non-native species has made native prairie scarce and it should be protected from tilling and development.